

KODAK TRI-X PAN FILM

35mm and 70mm Films in Rolls

This high-speed, fine-grain film is ideal for all kinds of black-and-white photography where very sharp images, high speed, and good enlargability are required.

HANDLING

Handle only in total darkness.

SPEED

ASA 400

This number is for use with meters and cameras marked for "ASA" Speeds, in either daylight or artificial light. It will normally lead to approximately the minimum exposure required to produce negatives of highest quality.

If, with normal development, your negatives are consistently too thin, increase exposure by using a lower number; if too dense, reduce exposure by using a higher number.

FILTER FACTORS

When a filter is used, increase the normal exposure by the factor indicated below:

KODAK WRATTEN Filters	K1 (No. 6)	K2 (No. 8)	X1 (No. 11)	G (No. 15)	A (No. 25)
Daylight	1.5	2*	4	2.5	8
Tungsten	1.5	1.5	3*	1.5	5

*For correct gray-tone rendering of colored objects.

ELECTRONIC SPEED FLASH GUIDE NUMBERS

This table is intended as a starting point in determining the correct guide number. The table is for use with equipment rated in beam candlepower-seconds (BCPS) or effective candlepower-seconds (ECPS). Divide the proper guide number by the flash-to-subject distance in feet to determine the *f*-number for average subjects.

Output of Unit (BCPS or ECPS)	350	500	700	1000	1400	2000	2800	4000	5600	8000
Guide Number for Trial	85	100	120	140	170	200	240	280	340	400

Caution: Do not use shutter speeds longer than 1/50 second; otherwise, results may be influenced by illumination other than electronic flash.

DEVELOPMENT

Develop in total darkness. However, a KODAK Safelight Filter, WRATTEN Series 3 (dark green), in a suitable safelight lamp with a 15-watt bulb, can be used for a few seconds after development is half completed, provided it is kept at least 4 feet from the film.

Short lengths of film, up to about 5½ feet, can be processed in small roll-film tanks—longer lengths can be processed in continuous machines or on spiral reels.

Process Control: To maintain uniform negative quality in both spiral reel and mechanized processing, the developer activity should be monitored with KODAK B/W Professional Process Control Strips.

Recommended Development for Long Rolls (Up to 100-Foot Lengths) on Spiral Reels

KODAK Packaged Developers	Developing Time (in Minutes)	
	68 F	75 F
HC-110 (Dilution A)	5	—
HC-110 (Dilution B)	8	—
POLYDOL	9	6

Secure the end of the film with a rubber band or waterproof tape to prevent the film from unwinding during processing. Then use the following agitation procedure.

1. Lower the reel into the developer, giving it a vigorous turning motion sufficient to cause the reel to rotate one-half to one revolution in the developer. Raise and lower the reel approximately one-half inch (keeping the reel in the solution) for the first 15 seconds of the development, tapping it against the bottom of the tank to release air bubbles from the film.

2. Agitate once each minute by lifting the reel out of the solution, tilting it 30 degrees to drain 5 to 10 seconds, and immersing it again with a vigorous turning motion sufficient to cause the reel to rotate one-half to one revolution in the developer. Alternate the direction of rotation each minute.

3. Agitate in the same manner in the stop bath and once per minute in the fixing bath.

Note: Too little agitation during development will cause mottle and uneven development. Too much pumping of the reel in and out of the developer can produce streaks across the film at the reel spokes. Too much turning of the reel in the solution can cause longitudinal streaks on the film. The agitation procedure just described provides a compromise which minimizes these undesirable effects.

Development in Motion-Picture-Type Continuous Processors

KODAK POLYDOL Developer is recommended for processing this film in motion-picture-type continuous-processing machines. KODAK B/W Professional Process Control Strips can be used as a guide to establish the proper development level in such processors. Adjust the development time and temperature to produce a diffuse density difference of about 1.00 to 1.10 between the two marked steps. Adjustments can be made from these values to suit your particular system or individual preference.

Replenishment of Developer

For KODAK POLYDOL Developer, use KODAK POLYDOL Replenisher.

For KODAK HC-110 Developer (Dilutions A and B), use KODAK HC-110 Developer Replenisher prepared as directed on the bottle.

After each roll of film processed, replenish as follows:

<i>Film Size</i>	<i>Replenisher Needed per Roll</i>
35 mm by 100 feet	15 fluid ounces
70 mm by 100 feet	30 fluid ounces

With such replenishment, POLYDOL Developer can be used as long as the solution remains clear and the control strips show that the process is in control. KODAK HC-110 Developer, however, should be replaced after one month's use.

Recommended Development for Short Lengths

KODAK Packaged Developers	Developing Times (in Minutes)									
	SMALL TANK—(Agitation at 30-Second Intervals)					LARGE TANK—(Agitation at 1-Minute Intervals)				
	65 F	68 F	70 F	72 F	75 F	65 F	68 F	70 F	72 F	75 F
HC-110 (Dilution A)	4¼	3¾	3½	3	2¾	4¾	4¼	3¾	3½	3
HC-110 (Dilution B)	6	5	4½	4	3½	7	6	5	4½	3¾
POLYDOL	9	8	7½	7	6	10	9	8½	8	7
DK-50 (1:1)	5½	5	—	4¾	4½	6½	6	5¾	5½	5
MICRODOL-X	13	11	10	9	8	15	13	11	10	9
MICRODOL-X (1:3)*	—	—	17	16	15	—	—	19	18	17
D-76	10	8	7	6	5	11	9	8	7	6
D-76 (1:1)	13	11	10	9	8	15	13	11	10	9

*For greatest sharpness (see developer instructions).

Note: Do not use developers containing silver halide solvents.

Rinse in KODAK Indicator Stop Bath or KODAK Stop Bath SB-5 for 30 seconds at 65 to 75 F with continuous agitation. A running-water rinse can be used if an acid rinse bath is not available.

Fix in KODAK Fixer or KODAK Fixing Bath F-5 or F-6 for 5 to 10 minutes; or KODAK Rapid Fixer or KODAFIX Solution for 2 to 4 minutes at 65 to 75 F with agitation.

Wash in running water at 65 to 75 F for 20 to 30 minutes. To minimize drying marks, treat in KODAK PHOTO-FLO Solution after washing or wipe surfaces carefully with a KODAK Photo Chamois or a soft, viscose sponge.

KODAK Hypo Clearing Agent can be used after fixing, to reduce washing time and conserve water. First, remove excess hypo by rinsing the film in water for 30 seconds. Then, bathe the film in the KODAK Hypo Clearing Agent solution for 1 or 2 minutes, with moderate agitation, and wash it for 5 minutes, using a water flow sufficient to give at least one complete change of water in 5 minutes.

Important: The temperatures of the rinse, fix, and wash should be held as close as practicable to the temperature of the developer solution.

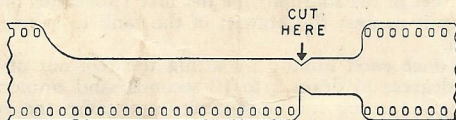
Dry film in a dust-free place.

The film can be air dried on a spiral reel. More rapid drying can be obtained with a rotating-reel unit with forced warm air. For detailed information on this drying unit, write Eastman Kodak Company, Department 454, for a copy of *Processing Long Rolls of Film in Spiral Reels* (KODAK Pamphlet No. J-7). Rinse the reel well in water and dry it thoroughly before using it again.

KODAK VERSAMAT Processing: KODAK TRI-X Pan Film can be processed in the KODAK VERSAMAT Processor with KODAK VERSAMAT Processing Chemicals. For information, write to Photographic Chemicals Sales, Eastman Kodak Company, 343 State Street, Rochester, New York 14650.

No. TX-410

No. TX-410 is tongued and notched every 66 inches, as shown below. The roll is 27½ feet long and gives five 36-exposure lengths, frame numbered 1-36.



NOTICE

This film will be replaced if defective in manufacture, labeling, or packaging, even though caused by our negligence or other fault. Except for such replacement, the sale or any subsequent handling of this film is without other warranty or liability.

EASTMAN KODAK COMPANY, Rochester, N.Y. 14650